

REMARKS

In the Action, the claims are rejected over the cited patents. The Action indicates that claims 1-10 are rejected, although the pending claims in this application prior to this Amendment are claims 1-11.

In response, independent claim 1 is amended to include the subject matter of claims 1, 4 and 8. Claims 3-11 are cancelled, and new claims 12, 13 and 14 are added to recite additional features of the invention that are not disclosed or suggested in the art of record. Claim 12 depends from claim 1 and recites the newsprint paper which does not contain an anti-slip agent as disclosed on page 8 of the specification. Claims 13 and 14 depend from claim 1 and recite the paper surface-modifying agent being a starch or a modified starch as disclosed on page 6 of the specification. Accordingly, these claims are supported by the specification as filed.

On page 2 of the Action, the specification and Abstract are objected to on matters of form. The present Amendment revises the specification to reference the patent numbers and revises the Abstract as suggested.

The Action objects to the word "Neppari" as not having a sufficient meaning described in the specification. As disclosed on page 7, lines 18-20 of the specification, the term "Neppari" refers to the problems associated with newsprint paper including the transferring of the paper surface-modifying agents on the blanket when the newsprint papers are printed in large quantities. Page 15, line 28, to page 16, line 12, refers to the Neppari strength as being the adhesion strength when two sheets of the newsprint paper are adhered together. Thus, the term Neppari is a term of art which is sufficiently described in the specification. See, also, U.S. Patent Publication No. 2003/007363, U.S. Patent No. 6,932,887 and U.S. Patent No. 5,750,253. These publications also refer to the term "Neppari" in a manner consistent with the specification.

In view of these amendments and the following comments, reconsideration and allowance are requested.

The Rejections

In the Action, claims 1-3 are rejected under 35 U.S.C. § 102, or in the alternative as being obvious under 35 U.S.C. § 103(a) over JP 07-119078 to Noriaki and U.S. Patent Publication No. 2006/0037512 to Pawlowska et al. Claims 4-10 are rejected as being obvious over Noriaki or Pawlowska et al. as evidenced by U.S. Patent No. 5,698,305 to Suzuki et al.

As amended, claim 1 includes the subject matter of claims 3, 5 and 8, and thus obviates the rejections under 35 U.S.C. § 102. Furthermore, claim 1, as amended, is directed to a newsprint paper having a specified static friction coefficient of 0.44 to 0.74 by applying a coating solution of 1) an alkene ketene dimer, and 2) a paper surface modifying agent on a neutralized newsprint base paper containing 50% by weight or more deinked pulp and light calcium carbonate. Claim 1 further recites the light calcium carbonate as the filler having an average particle diameter of 1.0 to 4.0 μm and being present in an amount of 1 to 30% by weight based on the weight of the base paper. The combination of these features are not disclosed or suggested in the art of record either standing alone or in combination.

The invention is directed to a newsprint paper having an effective size and quality, an effective range of friction coefficient, and a low adhesion or Neppari strength for a newsprint paper best suited for four color offset printing. These features are provided by the combination of the features recited in claim 1 including the neutralized newsprint base paper containing calcium carbonate in the recited amount, the specific alkenyl ketene dimer, the calcium carbonate having an average particle diameter of 1.0 to 4.0 μm , and the static friction coefficient in the range of 0.44 to 0.74. As noted in the Background of the Invention, alkyl ketene dimers are typically applied to acidic newsprint papers which require a large amount of the alkyl ketene dimer and typically require an anti-slip agent to control the friction coefficient.

A neutralized newsprint base paper containing calcium carbonate as a filler typically results in an increase in the friction coefficient. However, in the present invention, the combination of the neutralized newsprint base paper having the calcium carbonate in the claimed amount, the specific alkenyl ketene dimer and the particle size of the calcium carbonate impart a size and quality to the neutralized newsprint base paper without reducing the friction coefficient to an unacceptable level. Thus, the newsprint paper obtained according to claim 1 provides a well balanced quality for printing, such as in a four color offset printer.

Noriaki does not disclose or suggest the newsprint paper of claim 1. Specifically, Noriaki does not disclose a neutralized newsprint base paper containing calcium carbonate. Noriaki further fails to disclose a neutralized newsprint base paper containing calcium carbonate in the claimed amounts and having the claimed particle size. Thus, Noriaki does not inherently have the claimed static friction coefficient in the range of 0.44 to 0.74 as suggested in the Action.

Noriaki refers generally to a “ketene dimer”, but does not specifically disclose the use of an alkenyl ketene dimer either alone or in combination with a calcium carbonate filler in a neutralized base paper as claimed. Noriaki refers to the ketene dimer as being a saturated hydrocarbon group or having “partial saturation as shown” in the Formula 1. Thus, it appears the only unsaturated portion of the ketene dimer is the ketene dimer nucleus and not the R₁ or R₂ groups. Noriaki does not specifically disclose the R₁ or R₂ groups being unsaturated. Noriaki is directed to a process for improving the absorbency of the paper and evaluates the absorbency based on the presence or absence of the ketene dimer. Noriaki does not disclose or suggest that any difference exists between an alkyl ketene dimer and an alkenyl ketene dimer. Noriaki provides no suggestion of an effect of the ketene dimer on a neutralized newsprint base paper containing calcium carbonate as in the present invention. Accordingly, Noriaki provides no

suggestion or teaching to use an alkenyl ketene dimer in combination with a neutralized newsprint base paper containing calcium carbonate as in claim 1.

In contrast to Noriaki, the present specification, and particularly page 8, lines 7-19, state that the invention is based on the discovery of improved results of using an alkenyl ketene dimer compared to an alkyl ketene dimer. The results described in the specification, and particularly the Comparative Example 1, demonstrate that the alkenyl ketene dimer of the present invention provides improved results compared to the alkyl ketene dimer. The Experimental Results shown in Table 1 on page 17 of the specification show that the static and kinetic friction coefficients of Comparative Example 1 using an alkyl ketene dimer are reduced to unacceptable levels compared to the paper obtained according to Example 1 which uses the alkylene ketene dimer. Accordingly, the present invention is specifically directed to the use of the alkenyl ketene dimer and a neutralized newsprint base paper containing calcium carbonate in the claimed amount.

Pawlowska et al. also fails to disclose a neutralized newsprint base paper containing calcium carbonate in the claimed amounts. Pawlowska et al. also fails to disclose a static friction coefficient in the range of 0.44 to 0.74 as claimed. Since Pawlowska et al. does not disclose the use of a neutralized newsprint base paper as in the present invention, the base paper of Pawlowska et al. does not inherently have the claimed static friction coefficient as suggested in the Action.

The Action indicates that Pawlowska et al. discloses an alkenyl ketene dimer and refers to paragraph 0024. However, this passage does not refer to an alkenyl ketene dimer, but instead specifically refers to an alkyl ketene dimer. The claimed invention is specifically directed to the use of an alkenyl ketene dimer and not the alkyl ketene dimer of Pawlowska et al. The written description, including the Examples of Pawlowska et al., do not disclose or suggest the use of the claimed alkenyl ketene dimer. Furthermore, Pawlowska et al. does not disclose or suggest that there is a difference between an alkyl ketene dimer and the alkenyl ketene dimer when they

are used in a neutralized newsprint base paper containing calcium carbonate as in the present invention. Moreover, Pawlowska et al. in paragraph 0077 only indicates that the alkyl ketene dimer can be used instead of the alkenyl succinic anhydride. Thus, Pawlowska et al. suggests the equivalence of an alkyl ketene dimer and an alkenyl succinic anhydride, but provides no suggestion or teaching of the equivalence of an alkyl ketene dimer and an alkenyl ketene dimer.

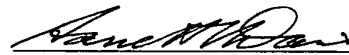
As noted above, Pawlowska et al. does not disclose or suggest a neutralized newsprint base paper containing calcium carbonate or an alkenyl ketene dimer. Accordingly, the resulting paper of Pawlowska et al. does not inherently have the claimed static friction coefficient as suggested in the Action since the base papers are not the same and are not coated with the same coating composition.

Suzuki et al. is cited for disclosing the use of deinked pulp. The rejection is based on the position that it would have been obvious to one of ordinary skill in the art to use a deinked pulp in the process of Noriaki and Pawlowska et al. For the reasons discussed above, Noriaki and Pawlowska et al. do not disclose or suggest the newsprint paper of claim 1 obtained by the coating solution containing an alkenyl ketene dimer and a paper surface-modifying agent on a neutralized newsprint base paper containing calcium carbonate having a particle size of 0.1 to 4.0 μm in an amount of 1% to 30% by weight based on the weight of the paper. Accordingly, the combination of Suzuki et al. and Noriaki or Pawlowska et al. does not render the claims obvious to one of ordinary skill in the art.

In view of the above comments, claims 1 and 2 are submitted to be allowable over the art of record. Claims 12-14 are also allowable as depending from claim 1 and for reciting additional features of the invention. For example, the combination of the cited references do not disclose the newsprint paper of claim 1 being in the absence of an anti-slip agent as in claim 12, the surface-modifying agent being a starch as in claim 13, or the surface-modifying agent being an oxidized starch, etherified starch, or esterified starch as in claim 14.

In view of the above comments and these amendments, the claims are submitted to be in condition for allowance. Accordingly, reconsideration and allowance are requested.

Respectfully submitted,



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